

Enclosure A

Description and Diagrams of the Site

Site Description

The Evergreen Airport Site includes approximately 51.5 acres north of SE Mill Plain Boulevard between SE 136th Avenue and SE Heartwood Boulevard in Vancouver, Washington. Recent site use included a small private airport with a runway, four hangar buildings, a small office building, and eight privately leased buildings. An 8,000-gallon, dual compartment, aviation fuel underground storage tank (UST) and associated dispenser were also previously present; this UST was reportedly installed in 1995 and was removed as part of the site cleanup. At least two other unleaded gasoline USTs (installed in 1972 and 1978) were formerly present at the site. The property was originally developed as an airfield in 1945. An overall site plan is shown in Figure 2 and detailed views are shown in Figures 3 through 17.

Environmental Concerns

Previous site characterization work resulted in the division of the site into 10 Soil Cleanup Action Areas (CAAs). These areas are briefly described below:

Soil Contamination:

Hangar Buildings (CAAs 1A through 1D): Based on surficial staining observed during the Phase I Environmental Site Assessment (ESA), selected soil samples were collected and analyzed for Total Petroleum Hydrocarbons – gasoline range (TPH-G), Total Petroleum Hydrocarbons – diesel range (TPH-D), Total Petroleum Hydrocarbons – heavy oil range (TPH-O), volatile organic compounds (VOCs; one sample only), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and metals. Selected results for TPH-O, cadmium, total chromium, and lead exceeded the MTCA Method A Cleanup Level for Unrestricted Uses. Arochlor-1254 was detected in one sample, Hangar-29-05 (365 micrograms per kilogram [µg/kg]). (See Figures 3 through 6)

Robertson's Paint Shop (CAA 2): Chemicals previously used at the facility include paint, lacquers, lacquer thinners, and paint stripper (including methylene chloride). In 1984, a citizen complaint stated that the shop was disposing of used paint stripper and solvent directly to the ground. Potential areas of concern associated with this facility include the following:

- Underground concrete sump.
- Wastewater settlement cells and a gutter in the floor of the building (these were used to carry wastewater to the underground sump).
- Above-ground concrete cistern located near the southeastern corner of the

- building.
- Heating oil above-ground storage tank (AST) located along the western wall of the building.

Selected soil sampling results from beneath the sump during supplemental characterization activities had results for cadmium and/or chromium that exceeded the MTCA Method A Cleanup Level. Analysis of the liquid contained within the sump showed detectable concentrations of tetrachloroethene (PCE) (62.6 micrograms per liter [$\mu\text{g/L}$]), toluene (2.58 $\mu\text{g/L}$), bis(2-ethylhexyl) phthalate (57.4 $\mu\text{g/L}$), diethyl phthalate (1.27 $\mu\text{g/L}$), phenol (18 $\mu\text{g/L}$), and aroclor 1260 (0.149 $\mu\text{g/L}$). During demolition of the paint shop building, 14 buried 55-gallon drums were discovered south of the underground sump, buried underneath the former concrete floor slab. These drums were apparently used to discharge liquids to the ground. Five of the drums contained soil. Soil samples collected from within or below the drums exceeded the MTCA Method A Cleanup Levels for TPH-O, cadmium, and PCE. The following organochlorine pesticides were also detected: 4,4-DDT, dieldrin, endosulfan II, endrin, and methoxychlor. None of these pesticides exceeded the MTCA Method B Formula Values. (See Figures 7 and 8)

Former Fueling Area and Drywell (CAA 3): Soil samples were collected during the installation of a groundwater monitoring well, and 16 direct-push borings. Selected samples were analyzed for TPH hydrocarbon identification method (HCID), TPH-D (one sample), TPH-O (one sample), VOCs, PAHs (one sample), PCBs (one sample), and lead (two samples). All results were below the MTCA Method A Cleanup Level for Unrestricted Uses except for TPH-G (MW-1-14', 747 milligrams per kilogram [mg/kg]). (See Figures 9 and 10)

Southern Portion of Former Evergreen Flight Service (CAA 4): This area included a former paint booth, one septic tank, two dry wells, and associated piping. (See Figure 11)

Vancouver Chainsaw and Service (CAA 5): This area included one French drain feature, one septic tank and distribution box, and associated piping. (See Figure 12)

Willamette Soaring Club (CAA 6): Concentrations of cPAHs and chromium exceeded the MTCA Method A Cleanup Levels in a soil sample beneath a septic tank drain line located near the southwest corner of the Willamette Soaring Club. (See Figure 13)

Drainage Feature near Hanger Building No. 2 (CAA 7): This area included a previously unidentified surface drainage feature that was constructed of two partially buried upside down 55-gallon plastic containers and one partially buried upside down 55-gallon metal drum. The containers were buried flush with the ground surface and two of them had small openings cut in the bottom. (See Figure 14)

CAA 8, Paint Spill Area (CAA 8): This area included an isolated surface spill of red paint, three ASTs, and a 55-gallon drum of red paint. (See Figure 15)

CAA 9, Aurora Avionics and Lights Building Drywell (CAA 9): This area included a septic tank, dry well, and associated piping. (See Figure 16)

Northwest Antique Aircraft Building Drywell (CAA 10): This area included a septic tank, dry well, and associated piping. (See Figure 17)

Groundwater: Three groundwater monitoring wells have been installed at the site (MW-1, -2, and -3). Well MW-1 is located in the vicinity of the UST, MW-2 is located near Robertson's Paint Shop, and MW-3 is located in the northern portion of the site. Depth to water in these wells was 168, 171, and 171 feet below ground surface (bgs), respectively. Perched groundwater was also observed in MW-2 at 86 feet bgs. The inferred direction of groundwater flow is south-southwest. Groundwater samples were collected from all three wells in July 2005, February and August 2006, and May 2008. Samples were analyzed from the wells for petroleum hydrocarbons (by the NWTPH-HCID Method, gasoline, diesel, and heavy oil range), VOCs, semi-volatile organic compounds (SVOCs; February and August 2006, May 2008), PAHs (February and August 2006, May 2008), total and dissolved metals (February and August 2006, and May 2008), PCBs (February and August 2006, and May 2008), and organochlorine pesticides (May 2008 only). A sample of the perched zone in MW-2 was also analyzed in June 2005 for petroleum hydrocarbons (by the NWTPH-HCID Method, gasoline, diesel, and heavy oil range), VOCs, PCBs, and PAHs (metals were not analyzed).

The only constituents that exceeded the MTCA Method A Cleanup Level were chromium and lead in MW-2 (February 2006). In a September 2006 Opinion Letter, Ecology requested an additional sample for total lead and chromium be collected from MW-2. This sample was collected in November 2006 and the analytical results were below the Cleanup Level. However, laboratory method reporting limits (MRLs) exceeded the MTCA Groundwater Method A Cleanup Level for PCBs.

Groundwater samples were collected with a bailer during the July 2005 and February 2006 sampling events. The low-flow method was used for the August and November 2006 and May 2008 sampling events.

In a June 2008 Opinion Letter, Ecology commented that according to Joe Ellingson, Clark County Health Department, a domestic well is located directly downgradient from the site, at 13919 SE Mill Plain Boulevard (see attached e-mail and photographs). It was recommended that this well be sampled to determine if groundwater is impacted. This well is constructed of 6-inch diameter steel casing. Currently the upper portion of the steel casing is bent and is filled-in with dirt. However, it was considered likely that the damaged section of well casing could be

replaced and the well cleaned-out to yield water samples. According to the Clark County assessor's database, the owner of the property where the well is located is 139 Mill Plain Partners, LLC, 1230 SW 1st Avenue, Portland, Oregon 97204. In this Opinion Letter, Ecology also requested that the additional round of groundwater samples include organochlorine herbicides.

In a July 9, 2008, GeoDesign responded to the Opinion Letter in a July 2008 Addendum to the Cleanup Action Report. In this addendum they stated that although a driller may be able to restore the well, groundwater quality may already have been compromised due to the damage and/or unknown "housekeeping" and that potential contaminants detected in future groundwater samples from this well may not represent contaminants from the Evergreen Airport Site. Also, the location of the well is not directly downgradient of the principal area of concern (CAA 2) but instead is south-southeast of CAA 3. Therefore, GeoDesign concludes that it is more appropriate to evaluate groundwater conditions from groundwater samples collected from monitoring well MW-2 rather than the damaged domestic well. GeoDesign also argued that since organochlorine herbicides were not detected in any of the soil samples, then it is not necessary to analyze for them in groundwater. Ecology agrees with this conclusion.

In summary, there is no indication that groundwater has been impacted by the releases to soil at the site. Therefore, no additional groundwater monitoring is necessary.

Site Cleanup

The cleanup action began on March 15, 2008 and was completed on June 4, 2008. It consisted of the excavation and removal of contaminated soil. Soil confirmation samples collected from the excavations after contaminated soil was removed were analyzed for the constituents shown in Attached Table 1 (Sampling and Analysis Plan). Most of the analytical constituents were compared to MTCA Method A Cleanup Levels for Unrestricted Land Uses (WAC 173-340-900, Table 740-1). However, some of the detected constituents at the Site do not have established Method A Cleanup Levels. These include semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), pesticides, copper, and zinc. Compounds that do not have established Method A Cleanup Levels were compared to MTCA Method B Formula Values. The MRLs were generally less than the MTCA Method A Cleanup Levels or the Method B Formula Values. For cases where the MRL was not less than the cleanup level or the Formula Value, the laboratory method detection limit (MDL) was used.

Approximately 1,340 tons of contaminated soil was generated from CAAs 1A through 1D, portions of 2, 3 through 7, 9, and 10. This soil was disposed of by permit at the Hillsboro Landfill. About 200 tons of contaminated soil was removed from CAA 8 and a portion of CAA 2. This soil was disposed of under a separate permit as non-dangerous waste under Ecology's Contained-In Policy also at the Hillsboro Landfill. During the soil excavation activities, the

8,000-gallon dual compartment aviation fuel underground storage tank in CAA 3 was decommissioned by removal.

Conclusion

All known contaminated soil was removed from the site. Results from groundwater monitoring do not suggest site groundwater was impacted by the releases to soil. Therefore, no additional groundwater monitoring is necessary.

ATTACHMENTS

Table 1 (Sampling and Analysis Plan)
Table 1A (MRL and MDL Summary - Soil)
Table 2A (Summary Risk Table - Soil)
Table 1B (MRL and MDL Summary – Groundwater)
Table 2B (Summary Risk Table – Groundwater)
Figures 2 through 17

